6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[EPA-R9-OAR-2022-0501; FRL–10106-01-R9]

Determination of Attainment by the Attainment Date But For International Emissions for the 2015 Ozone National Ambient Air Quality Standard; Imperial County, California

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA or "Agency") is proposing to determine that the Imperial County nonattainment area would have attained the 2015 ozone national ambient air quality standard (NAAQS) by the August 3, 2021 "Marginal" area attainment date, but for emissions emanating from outside the United States. If we finalize this proposed action, the Imperial County nonattainment area would no longer be subject to the Clean Air Act (CAA) requirements pertaining to reclassification upon failure to attain and therefore would remain classified as a Marginal nonattainment area for the 2015 ozone NAAQS. This action, when finalized, will fulfill the EPA's statutory obligation to determine whether the Imperial County ozone nonattainment area attained the NAAQS by the attainment date.

DATES: Comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2022-0501 at *https://www.regulations.gov.* For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written

comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.* If you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Ginger Vagenas, EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105; telephone number: (415) 972-3964; email address: *vagenas.ginger@epa.gov*.

SUPPLEMENTARY INFORMATION: Throughout this document "we," "us," or "our" refer to the EPA.

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I. Background

A. 2015 Ozone National Ambient Air Quality Standard and Area Designations

Ground-level ozone pollution is formed from the reaction of volatile organic compounds (VOC) and oxides of nitrogen (NO_X) in the presence of sunlight. These two pollutants, referred to as ozone precursors, are emitted by many types of sources, including on- and non-road motor vehicles and engines, power plants and industrial facilities, and smaller area sources such as lawn and garden equipment and paints. Scientific evidence indicates that adverse public health effects occur following exposure to ground-level ozone pollution. Exposure to ozone can harm the respiratory system (the upper airways and lungs), can aggravate asthma and other lung diseases, and is linked to premature death from respiratory causes. People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers.[1]

Under CAA section 109, the EPA promulgates NAAQS (or "standards") for pervasive air pollutants, such as ozone. The EPA has previously promulgated NAAQS for ozone in 1979, 1997, and 2008.[2] On October 26, 2015, the EPA revised the NAAQS for ozone to establish a new 8-hour standard.[3] In that action, the EPA promulgated identical revised primary and secondary ozone standards designed to protect public health and welfare that specified an 8-hour ozone level of 0.070 parts per million (ppm).[4] Specifically, the standard requires that the 3-year average of the annual fourth highest daily maximum 8-hour average ozone concentration (i.e., the design value) may not exceed 0.070 ppm.[5] When the design value does not exceed 0.070

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[1] EPA Fact Sheet – Ozone and Health, available at *https://www.epa.gov/sites/default/files/2016-04/documents/20151001healthfs.pdf* and in the docket for this action.
[2] 44 FR 8202 (February 8, 1979), 62 FR 38856 (July 18, 1997), and 73 FR 16436 (March 27, 2008).
[3] 80 FR 65452.
[4] Because the 2015 primary and secondary NAAQS for ozone are identical, for convenience, the EPA refers to them in the singular as "the 2015 ozone NAAQS" or as "the standard."
[5] A design value is a statistic used to compare data collected at an ambient air quality monitoring site to the applicable NAAQS to determine compliance with the standard. The design value for the 2015 ozone NAAQS is the 3-year average of the annual fourth highest daily maximum 8-hour average ozone concentration. The design value is calculated for each air quality monitor in an area and the area's design value is the highest design value among the individual monitoring sites in the area.

ppm at each ambient air quality monitoring site within the area, the area is deemed to be attaining the ozone NAAQS.[6]

Section 107(d) of the CAA provides that when the EPA promulgates a new or revised NAAQS, the Agency must designate areas of the country as nonattainment, attainment, or unclassifiable based on whether an area is not meeting (or is contributing to air quality in a nearby area that is not meeting) the NAAQS, meeting the NAAQS, or cannot be classified as meeting or not meeting the NAAQS, respectively. Subpart 2 of part D of title I of the CAA governs the classification, state planning, and emissions control requirements for any areas designated as nonattainment for a revised primary ozone NAAQS. In particular, CAA section 181(a)(1) also requires the EPA to classify each ozone nonattainment area at the time of designation, based on the extent of the ozone problem in the area (based on the area's design value). Classifications for ozone nonattainment areas range from "Marginal" to "Extreme." CAA section 182 provides the specific attainment planning and additional requirements that apply to each ozone nonattainment area based on its classification. CAA section 182, as interpreted in the EPA's implementing regulations at 40 CFR 51.1308 through 51.1317, also establishes the timeframes by which air agencies must submit and implement SIP revisions to satisfy the applicable attainment planning elements, and the timeframes by which nonattainment areas must attain the 2015 ozone NAAQS.

Effective on August 3, 2018, the EPA designated 52 areas throughout the country, including Imperial County, California, nonattainment for the 2015 ozone NAAQS.[7] In a separate action, the EPA assigned classification thresholds and attainment dates based on the severity of each nonattainment area's ozone problem, determined by the area's design values and classified

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[6] The data handling convention in 40 CFR 50, appendix U dictates that concentrations shall be reported in "ppm" to the third decimal place, with additional digits to the right being truncated. Thus, a computed 3-year average ozone concentration of 0.071 ppm is greater than 0.070 ppm and would exceed the standard, but a design value of 0.0709 is truncated to 0.070 and attains the 2015 ozone NAAQS.

[7] 83 FR 25776 (June 4, 2018). The EPA later designated the San Antonio area as a 2015 ozone NAAQS nonattainment area effective September 24, 2018. 83 FR 35136 (July 25, 2018).

the Imperial County nonattainment area as Marginal.[8] The EPA established the attainment date for Marginal ozone nonattainment areas as three years from the effective date of the final designations. Thus, the attainment date for Marginal nonattainment areas for the 2015 ozone NAAQS was August 3, 2021.

B. Clean Air Act Requirements for Marginal Ozone Nonattainment Areas

The list of applicable requirements for ozone nonattainment areas classified as Marginal includes a submission that meets the baseline emissions inventory, source emission statements, and nonattainment new source review program requirements. The California Air Resources Board (CARB) has provided submittals to the EPA for the Imperial County nonattainment area addressing these requirements for the 2015 ozone NAAQS, and the EPA has proposed to approve them.[9]

Transportation and general conformity apply within the Imperial County 2015 ozone NAAQS nonattainment area under section 176(c) of the CAA and the federal regulations for transportation conformity (40 CFR 93 subpart A) and general federal actions (40 CFR 93 subpart B). This action, if finalized, would not affect the applicability of these regulations within Imperial County.

As described in the 2015 Ozone NAAQS Implementation Rule, section 182(a) of the CAA does not require states to implement reasonably available control measures (RACM) or reasonably available control technology (RACT) in Marginal ozone nonattainment areas, and nothing in section 179B alters the statutory requirements with respect to RACM/RACT obligations in subpart 2.[10]

C. Requirement for Determination of Attainment of the 2015 Ozone National Ambient Air Quality Standard

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[8] 83 FR 10376 (March 9, 2018), effective May 8, 2018.

[9] Our proposed approvals of the District's baseline emissions inventory, emissions statement rule, and nonattainment new source review certification for the 2015 ozone NAAQS are at 86 FR 54887 (October 5, 2021), 86 FR 70996 (December 14, 2021), and 87 FR 22163 (April 14, 2022), respectively. We finalized our approval of the emissions statement rule on July 29, 2022 (87 FR 45657).

[10] 83 FR 62998, 63010 (December 6, 2018).

Section 181(b)(2)(A) of the CAA requires that within 6 months following the applicable attainment date, the EPA shall determine whether an ozone nonattainment area attained the ozone standard based on the area's design value as of that date. If the EPA determines that an area failed to attain, CAA section 181(b)(2)(A) requires the area to be reclassified by operation of law to the higher of: (1) the next higher classification for the area, or (2) the classification applicable to the area's design value as of the determination of failure to attain.[11] Section 181(b)(2)(B) of the CAA requires the EPA to publish the determination of failure to attain and accompanying reclassification in the *Federal Register* no later than 6 months after the attainment date, which in the case of the Imperial County nonattainment area, was February 3, 2022.

The EPA's proposed determination that Imperial County would have attained the 2015 ozone standard but for international emissions is based in part upon data that have been collected and quality-assured by CARB and the Imperial County Air Pollution Control District (APCD) in accordance with 40 CFR part 58 and recorded in the EPA's Air Quality System (AQS) database.[12] Ambient air quality monitoring data for the 3-year period preceding the attainment date (2018-2020 for the 2015 ozone NAAQS Marginal areas) must meet the data completeness requirements in Appendix U.[13] The completeness requirements are met for the 3-year period at a monitoring site if daily maximum 8-hour average concentrations of ozone are available for at least 90 percent of the days within the ozone monitoring season, on average, for the 3-year period, and no single year has less than 75 percent data completeness.

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[11] If the EPA were to determine that the Imperial County nonattainment area failed to attain by the attainment date, it would be classified to the next highest classification of Moderate. The reclassified area would then be subject to the Moderate area requirement to attain the 2015 ozone NAAQS as expeditiously as practicable, but not later than August 3, 2024.

[12] The EPA maintains the AQS, a database that contains ambient air pollution data collected by the EPA, state, local, and tribal air pollution control agencies. The AQS also contains meteorological data, descriptive information about each monitoring station (including its geographic location and its operator) and data quality assurance/quality control information. The AQS data are used to (1) assess air quality, (2) assist in attainment/non-attainment designations, (3) evaluate SIPs for non-attainment areas, (4) perform modeling for permit review analysis, and (5) prepare reports for Congress as mandated by the CAA. Access is through the website at *https://www.epa.gov/aqs*.

[13] 40 CFR part 50, appendix U, § 4(b).

For areas such as Imperial County classified as Marginal nonattainment for the 2015 ozone NAAQS, the attainment date was August 3, 2021.[14] Because the design value is based on the three most recent, complete calendar years of data, attainment must occur no later than December 31st of the year prior to the attainment date (i.e., December 31, 2020, in the case of Marginal nonattainment areas for the 2015 ozone NAAQS). Consequently, the EPA's proposed action for the Imperial County nonattainment area is based upon the complete, quality-assured, and certified ozone monitoring data from calendar years 2018, 2019, and 2020. The design value for this period is 0.078 ppm, indicating that the Imperial County nonattainment area did not attain the 2015 ozone NAAQS by its August 3, 2021 attainment date.[15]

D. International Transport and Requirements for Clean Air Act Section 179B

CAA section 179B(b) provides that where a state demonstrates to the Administrator's satisfaction that an ozone nonattainment area would have attained the NAAQS by the applicable attainment date but for emissions emanating from outside the United States (U.S.), that area shall not be subject to the mandatory reclassification provision of CAA section 181(b)(2).[16] In the event an air agency does not demonstrate to the EPA's satisfaction that it would have attained the NAAQS but for international emissions, it will be reclassified to the next higher classification.

Anthropogenic emissions sources outside of the U.S. can affect to varying degrees the ability of some air agencies to attain and maintain the 2015 ozone NAAQS in areas within their jurisdiction. In a nonattainment area affected by international emissions, an air agency may elect under CAA section 179B to develop and submit to the EPA a demonstration intended to show that a nonattainment area would attain, or would have attained, the relevant NAAQS by the

[14] The San Antonio, Texas area has an attainment date of September 24, 2021.
[15] "EPA Evaluation of the Clean Air Act Section 179B(b) Demonstration for the Imperial County Marginal Ozone Nonattainment Area," available in the docket for this rulemaking.
[16] Note that the statute cites 42 U.S.C. 7511(a)(2), but that provision establishes ozone attainment deadlines for severe areas under the 1-hour standard. The EPA has long interpreted the citation in CAA section 179B(b) to be a scrivener's error that was supposed to refer to 42 U.S.C. 7511(b)(2), which refers to consequences for failure to attain by the attainment date.

applicable statutory attainment date "but for" emissions emanating from outside the U.S.[17] Under CAA section 179B, the EPA evaluates such demonstrations, and if it agrees with the air agency's demonstration, the EPA considers the impacts of international emissions in taking specific regulatory actions.

CAA section 179B provides the EPA with authority to consider impacts from international emissions in two contexts: (1) a "prospective" state demonstration submitted as part of an attainment plan, which the EPA considers when determining whether the SIP adequately demonstrates that a nonattainment area will attain the NAAQS by its future attainment date (CAA section 179B(a)); or (2) a "retrospective" state demonstration, which the EPA considers after the attainment date in determining whether a nonattainment area attained the NAAQS by the attainment date (CAA section 179B(b)–(d)).

First, CAA section 179B(a) provides that, "[N]otwithstanding any other provision of law, an implementation plan or plan revision required under this chapter shall be approved by the Administrator if (1) such plan or revision meets all the requirements applicable to it…other than a requirement that such plan or revision demonstrate attainment and maintenance of the relevant national ambient air quality standards by the attainment date specified under the applicable provision of this chapter, or in a regulation promulgated under such provision, and (2) the submitting state establishes to the satisfaction of the Administrator that the implementation plan of such state *would be adequate to attain and maintain the relevant national ambient air quality standards by the attainment date* … but for emissions emanating from outside of the United States," (emphasis added). The EPA refers to CAA section 179B(a) demonstrations as "prospective" demonstrations because they are intended to assess future air quality, taking into consideration the impact of international emissions. Thus, if the EPA approves a prospective

[17] All references to CAA section 179B are to 42 U.S.C. 7509a. International border areas, as added Pub. L. No. 101-549, title VIII, § 818, 104 Stat. 2697 (November 15, 1990).

demonstration, the state is relieved from the requirement to demonstrate that the nonattainment area will attain the NAAQS by the applicable attainment date.[18]

Second, CAA section 179B(b) provides that, for ozone nonattainment areas, "[n]otwithstanding any other provision of law, any State that establishes to the satisfaction of the Administrator that … such State *would have attained* the national ambient air quality standard … by the applicable attainment date but for emissions emanating from outside of the United States," (emphasis added) shall not be subject to reclassification to a higher classification category by operation of law, as otherwise required in CAA section 181(b)(2).[19] The EPA refers to demonstrations developed under CAA section 179B(b) as "retrospective" demonstrations because they involve analyses of past air quality (e.g., air quality data from the yearsevaluated for determining whether an area attained by the attainment date). Thus, an EPA-approved retrospective demonstration provides relief from reclassification that would have resulted from the EPA determining that the area failed to attain the NAAQS by the relevant attainment date.

Irrespective of whether developing and submitting a prospective or retrospective demonstration, states still must meet all nonattainment area requirements applicable for the relevant NAAQS and area classification. The 2015 Ozone NAAQS Implementation Rule did not include regulatory requirements specific to CAA section 179B but did provide guidance on certain points. In the preamble to the rule, the EPA confirmed that: (1) only areas classified Moderate and higher must show that they have implemented reasonably available control measures and reasonably available control technology (RACM/RACT); (2) CAA section 179B demonstrations are not geographically limited to nonattainment areas adjoining an international

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[18] Section 182(a) of the CAA, which describes nonattainment area requirements for ozone Marginal areas, states that the requirements of section 182(a) "shall apply in lieu of any requirement that the State submit a demonstration that the applicable implementation plan provides for attainment of the ozone standard by the applicable attainment date in any Marginal Area." In other words, there is no prospective relief that can be granted by the EPA under section 179B(a) for ozone nonattainment areas classified as Marginal.

[19] The EPA's longstanding view is that CAA section 179B(b) contains an erroneous reference to section 181(a)(2), and that Congress actually intended to refer here to section 181(b)(2), which addresses reclassification requirements for ozone nonattainment areas. See "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," 57 FR 13498, 13569, footnote 41 (April 16, 1992).

border; and, (3) a state demonstration prepared under CAA section 179B can consider emissions emanating from sources in North America (i.e., Canada or Mexico) or sources on other continents.[20] In the preamble to that rule, the EPA encouraged air agencies to consult with the appropriate EPA regional office to determine technical requirements for the CAA section 179B demonstrations. In addition, the EPA noted its development of supplementary technical information and guidance to assist air agencies in preparing demonstrations that meet the requirements of CAA section 179B.

The EPA issued more detailed guidance regarding CAA section 179B on December 18, 2020, that includes recommendations to assist state, local, and tribal air agencies that intend to develop a CAA section 179B demonstration ("179B Guidance").[21] The 179B Guidance describes and provides examples of the kinds of information and analyses that the EPA recommends air agencies consider for inclusion in a CAA section 179B demonstration.

In the 179B Guidance, the EPA confirmed that while approval of a CAA section 179B demonstration provides specific forms of regulatory relief for air agencies, the EPA's approval does not relieve air agencies from obligations to meet the remaining applicable planning or emission reduction requirements in the CAA. It also does not provide a basis either for excluding air monitoring data influenced by international transport from regulatory determinations related to attainment and nonattainment, or for redesignating an area to attainment. If an air agency is contemplating a CAA section 179B demonstration in either the CAA section 179B(a) "prospective" context or the CAA section 179B(b) "retrospective" context, the EPA encourages communication throughout the demonstration development and submission process, along the lines of these basic steps: (1) the air agency contacts its EPA Regional office to discuss CAA section 179B regulatory interests and conceptual model; (2) the air agency begins gathering

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[20] 83 FR 62998, 63009.

[21] "Guidance on the Preparation of Clean Air Act Section 179B Demonstrations for Nonattainment Areas Affected by International Transport of Emissions" issued on December 18, 2020; available at *https://www.epa.gov/sites/default/files/2020-12/documents/final_caa_179b_guidance_december_2020_with_disclaimer_ogc.pdf*. The EPA also issued a notice of availability in the *Federal Register* on January 7, 2021 (86 FR 1107).

information and developing analyses for a demonstration; (3) the air agency submits a draft CAA section 179B demonstration to its EPA Regional office for review and discussion; and (4) the air agency submits its final CAA section 179B demonstration to the EPA. After that process is complete, the EPA makes a determination as to the sufficiency of the demonstration after a public notice and comment process. The EPA may act on a prospective demonstration when taking action on an area's attainment plan. For a retrospective demonstration, the EPA may determine its adequacy when taking action to determine whether the area attained by the attainment date and is subject to reclassification.

The EPA's consideration of the CAA section 179B demonstrations submitted by states in connection with reclassification of ozone nonattainment areas is governed by CAA section 179B(b).[22] Pursuant to that provision, the state must establish "to the satisfaction of the Administrator that, with respect to [the relevant] ozone nonattainment area in such State, such State would have attained the [2015 ozone NAAQS] by the applicable attainment date, but for emissions emanating from outside of the United States..." Because the wording in CAA section 179B(b) is in the past tense, it is reasonable for the EPA to conclude that such demonstrations should be retrospective in nature. In other words, the demonstration should include analyses showing that the air quality data on specific days in the time period used to assess attainment were affected by international emissions to an extent that prevented the area from attaining the standard by the attainment date.[23] By definition, states can only make such a demonstration after air quality data collected pursuant to federal reference or equivalent monitoring methods are certified and indicate that the area failed to attain by the attainment date. Where the EPA approves a state's CAA section 179B(b) retrospective demonstration, the area retains its

[22] The regulatory relief a state would receive from a satisfactory prospective CAA section 179B(a) demonstration is limited to approval of an attainment plan that does not demonstrate attainment and maintenance of the relevant NAAQS, but meets all other applicable requirements. CAA section 179B(a) is not germane to this proposal.
[23] 179B Guidance, 15-16.

nonattainment designation and is still subject to all applicable requirements for the area's current classification, but is not subject to the applicable requirements for any higher classification.[24] [25]

The CAA does not specify what technical analyses would be sufficient to demonstrate "to the satisfaction of the Administrator" that a "State would have attained the [NAAQS for the pollutant in question] by the applicable attainment date, but for" international emissions. The EPA recognizes that the relationship between certain NAAQS exceedances and associated international transport is clearer in some cases than in others. The following characteristics would suggest the need for a more detailed demonstration with additional evidence: (1) affected monitors are not located near an international border; (2) specific international sources and/or their contributing emissions are not identified or are difficult to identify; (3) exceedances on internationally influenced days are in the range of typical exceedances attributable to local sources; and (4) exceedances occurred in association with other processes and sources of pollutants, or on days where meteorological conditions were conducive to local pollutant formation (e.g., for ozone, clear skies and elevated temperatures). Therefore, CAA section 179B demonstrations for non-border areas may involve additional technical rigor, analyses and resources compared to demonstrations for border areas.

Given the extensive number of technical factors and meteorological conditions that can affect international transport of air pollution, and the lack of specific guidance in the Act, the EPA evaluates CAA section 179B demonstrations based on the weight of evidence of all information and analyses provided by the air agency. The appropriate level of supporting documentation will vary on a case-by-case basis depending on the nature and severity of international influence, as well as the factors identified above. The EPA considers and

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[24] Id. at 3.

[25] As we noted in our 179B Guidance, an air agency with a Marginal ozone nonattainment area that is affected by international emissions may wish to evaluate whether implementing emission reduction measures on domestic sources in the nonattainment area can bring the area into attainment because, until the area attains the NAAQS and the EPA approves an air agency submission addressing the redesignation criteria of CAA section 107(d)(3)(E), the area will continue to be subject to nonattainment area requirements, including nonattainment new source review. Id. at 17.

qualitatively weighs all evidence based on its relevance to CAA section 179B and the nature of international contributions as described in the demonstration's conceptual model. Every demonstration should include fact-specific analyses tailored to the nonattainment area in question. When a CAA section 179B demonstration shows that international contributions are larger than domestic contributions, the weight of evidence will be more compelling than if the demonstration shows domestic contributions exceeding international contributions. In contrast, when a CAA section 179B demonstration shows that international emissions have a lower contribution to ozone concentrations than domestic emissions, and/or international transport is not significantly different on local exceedance days compared to non-exceedance days, then the weight of evidence will not be supportive of a conclusion that a nonattainment area would attain or would have attained the relevant NAAQS by the statutory attainment date "but for" emissions emanating from outside the U.S.

In evaluating a CAA section 179B demonstration the EPA also considers what measures an air agency has implemented to control local emissions. At a minimum, states are still subject to all requirements applicable to the area based on its nonattainment classification. For the EPA to concur with a state's CAA section 179B retrospective demonstration, the weight of evidence should show the area could not attain with on-the-books measures and and potential reductions associated with controls required for that particular NAAQS that are to be implemented by the attainment date. Because CAA section 179B does not relieve an air agency of its planning or control obligations, the air agency should show that it has implemented all required emissions controls at the local level as part of its demonstration.

II. Imperial County Ozone Determination of Attainment But For International Emissions

A. Imperial County Ozone Nonattainment Area

The Imperial County nonattainment area for the 2015 ozone standard includes the whole County, including lands of the Quechan Tribe of the Fort Yuma Indian Reservation and the

Torres Martinez Desert Cahuilla Indians within the geographic boundary of Imperial County.[26] The County encompasses over 4,000 square miles in southeastern California. Its population is estimated to be approximately 180,000 people,[27] and its principal industries are farming and retail trade. It is bordered by Riverside County to the north, Arizona to the east, Mexico to the south, and San Diego County to the west. The Imperial Valley runs north-south through the central part of the County and includes the County's three most populated cities: Brawley, El Centro, and Calexico. Most of the County's population and industries exist within this relatively narrow land area that extends about one-fourth the width of the County. The rest of Imperial County is primarily desert, with little or no human population.[28]

B. Ozone Monitoring Sites in Imperial County

There are currently four ozone monitoring sites in Imperial County. Listed from south to north, the Imperial ozone monitoring sites are: Calexico-Ethel Street, El Centro-9th Street, Westmorland, and Niland.[29] The maximum 2020 design value for the County, based on certified monitoring data at the monitor located closest to the Mexico border (the Calexico-Ethel Street monitor), was 0.078 ppm. Calexico-Ethel Street is the only ozone monitor in Imperial County violating the 2015 ozone NAAQS of 0.070 ppm. The 2020 design value for the El Centro-9th Street monitor was 0.068 ppm, i.e., attaining the 2015 ozone NAAQS. The design values for monitors farther from the border, Westmorland (0.058 ppm) and Niland (0.049 ppm), are invalid due to less than 90 percent data completeness for the three-year period and less than 75 percent completeness in calendar year 2020.[30]

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[26] 40 CFR 81.305.

[27] U.S. Census Bureau, Population Estimates, July 1 2021, (V2021), *https://www.census.gov/quickfacts/imperialcountycalifornia,* accessed April 6, 2021.

[28] Maps showing stationary NO_X and VOC emission sources, vehicle traffic, and population density in Imperial County are included as Figures A-1 – A-3 in the EPA's technical support document, which is included in the docket for this rulemaking.

[29] A map showing the ozone monitoring sites in Imperial County is included as Figure 4 in the EPA's technical support document, which is included in the docket for this rulemaking.

[30] We note that the 2020 design values at Westmorland of 58 ppb and at Niland of 49 ppb are invalid because the average data completeness of 84 percent and 86 percent for the 2018-2020 period and 72 percent and 67 percent in 2020, respectively. These percentages are below the minimum completeness thresholds of 90 percent for the three-year period and 75 percent for an individual year, respectively. Air Quality System (AQS) Design Value Report (AMP480), pulled December 3, 2021, and 40 CFR part 50, App. U, section 4(b).

Tables 1 and 2 of this document list the 2016-2020 annual fourth highest daily maximum 8-hour average ("4th max") and design values at the Imperial County ozone monitors. The Calexico-Ethel Street monitor, which is one mile from the border, consistently measures the highest 4th max concentration in each year; concentrations decrease as each monitor's distance from the border increases. The 2019 design value, which is valid for all four sites, shows a similar relationship between concentration and distance from the border: 0.079 ppm at Calexico-Ethel Street, 0.072 ppm at El Centro-9th Street (9 miles from border), 0.061 ppm at Westmorland (26 miles from border), and 0.054 ppm at Niland (38 miles from border).

The Niland monitor design value has been consistently below 0.070 ppm since 2016. In addition, the valid design values and complete yearly 4th maxes at Niland have been consistently lower than the El Centro-9th Street and Calexico-Ethel Street monitors in the past five years. The Westmorland monitor started operation in July 2015; the only valid Westmorland monitor design value, in 2019, was 0.061 ppm, below the 2015 ozone NAAQS of 0.070 ppm. In addition, the complete yearly 4th maxes at Westmorland have been consistently lower than the El Centro-9th Street and Calexico-Ethel Street monitors in the past five years.

Table 1. 2015 Ozone NAAQS: 2016-2020 Yearly 4th Max
Imperial County Ozone Monitors

			4th Max (ppm)				
Site Name	**AQS Site ID**	**Distance from border (miles)**	**2016**	**2017**	**2018**	**2019**	**2020**
Calexico-Ethel Street	06-025-0005	1	0.074	0.082	0.076	0.080	0.080
El Centro-9th Street	06-025-1003	9	0.074[a]	0.079	0.075	0.062	0.069
Westmorland	06-025-4003	26	0.063	0.063	0.061	0.059	0.054[a]
Niland	06-025-4004	38	0.062	0.057	0.051	0.054	0.043[a]

Source: Air Quality System (AQS) Design Value Report (AMP480), pulled December 3, 2021.
[a] Incomplete; did not meet completeness threshold of 75% for an individual year.

Table 2. 2015 Ozone NAAQS Design Values
Imperial County Ozone Monitors

		Design Value (ppm)				
Site Name	**AQS Site ID**	**2016**	**2017**	**2018**	**2019**	**2020**
Calexico-Ethel Street	06-025-0005	0.076	0.077	0.077	0.079	0.078

El Centro-9th Street	06-025-1003	0.076	0.076	0.076	0.072	0.068
Westmorland	06-025-4003	0.060[a]	0.061[a]	0.062[a]	0.061	0.058[a]
Niland	06-025-4004	0.067	0.063	0.056	0.054	0.049[a]

Source: AQS Design Value Report (AMP480), pulled December 3, 2021.

[a] Invalid because data are incomplete (did not meet minimum completeness thresholds of 90% for the three-year period).

C. Summary of the State's Submission

On August 16, 2021, CARB submitted to the EPA for review its "Imperial County Clean Air Act Section 179B(b) Analysis for the 70 ppb 8-Hour Ozone Standard" ("Demonstration"). CARB submitted additional information on November 24, 2021. Using several lines of evidence, CARB evaluated whether, and the extent to which, ambient ozone levels in Imperial County would be affected by emissions emanating from northern Mexico. This evaluation includes a conceptual model of ozone formation in Imperial County including a discussion of the meteorological and topographic conditions that influence ozone formation; an analysis of the ozone design value trends in the County from 2000 to 2020; an emissions inventory analysis comparing ozone precursor emissions in Imperial County, California to those in the Mexicali Municipality in Mexico; an ambient observational analysis of back-trajectories examining whether there is an internationally influenced source-receptor relationship on ozone exceedance days in Imperial County; and a photochemical air quality modeling exercise estimating the contribution of cross-border, northern Mexico emissions to ozone design values in Imperial County.

1. Conceptual Model

CARB provided a conceptual model describing ozone formation in the Imperial County ozone nonattainment area, which is located on the border of the United States and Mexico and encompasses all of Imperial County. Imperial County includes the northern portion of the Imperial Valley, which extends from the southern end of the Salton Sea southward into Mexico, where it becomes known as the Mexicali Valley. The valleys are bordered by mountains to the west and east, and on the south side by mountains south of the border to the southwest of

Mexicali. These ranges channel airflow within the Imperial and Mexicali Valleys, without topographic features between, creating a shared binational air shed for the region. Imperial County experiences hot, dry weather and stagnation in the summer, which are conducive to ozone formation. Highest ozone concentrations are experienced between May through September and generally peak in the late afternoon. Ozone and ozone precursors are often transported to Imperial County by prevailing winds from Mexicali to the south, and to a lesser extent from other surrounding air basins.[31]

CARB provided trends in the ozone design values for the Calexico-Ethel Street, El Centro-9th Street, and Niland monitors, number of days with maximum daily 8-hour ozone values greater than 70 ppb within the nonattainment area, and Imperial County ozone precursor emissions from 2000-2020.[32] The County's maximum ozone design value across all monitors has decreased over the past two decades, along with a 60 percent reduction in oxides of nitrogen (NO_X) and a 45% reduction in anthropogenic VOC emissions within Imperial County over that period.[33] The Calexico monitor's design value trend, however, has been relatively flat when compared to the downward trend at the Niland and, more recently, at the El Centro monitors, which are farther from the border. From 2003 through 2015, El Centro had the highest design value of the three monitors for all design value periods except for two: Calexico and El Centro had the same design value in 2016, and from 2017-2020 Calexico had the highest design value.

2. Emissions Analysis for Imperial County and the Mexicali Municipality

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[31] Demonstration, 2-5.

[32] Id. at 4-6. CARB often states ozone concentrations in units of parts per billion (ppb). The form of the NAAQS in 40 CFR 50.15 is in ppm (parts per million). To convert from ppm to ppb, multiply ppm by 1000. Thus, e.g., 0.070 ppm becomes 70 ppb. While those values are numerically equal, for comparison of concentrations to the NAAQS care must be used in applying the data handling requirements of 40 CFR 50, appendix P, e.g., truncation after the third digit of a ppm value is equivalent to dropping digits after the decimal point in a ppb value.

[33] CARB refers to reactive organic gases (ROG) in some of its ozone-related submittals. The CAA and the EPA's regulations refer to VOC, rather than ROG, but both terms cover essentially the same set of gases. In this document, we use the term VOC to refer to this set of gases.

CARB provided a table of 2018 ozone precursor emissions, shown in Table 3 of this document.[34] The emissions of both NO_X and VOC in the Mexicali Municipality are approximately four times larger than Imperial County emissions. These emissions do not include emissions originating in other parts of Mexico or elsewhere that could also affect ozone levels in Imperial County. CARB notes that while domestic emissions have decreased, the Mexicali emissions have increased. CARB also notes that the population of Mexicali Municipality grew from around 600,000 in the early 1990s to over 1.1 million in 2019 and that it has become an economic center for the region with a corresponding increase in emissions for the area.

Table 3: CARB's 2018 Imperial County and Mexicali Municipality Emissions Inventory (tons per day (tpd), summer planning inventory)[a]

Source	Imperial County				City of Mexicali			
	NO_X (tpd)	**NO_X (%)**	**VOC (tpd)**	**VOC (%)**	**NO_X (tpd)**	**NO_X (%)**	**VOC (tpd)**	**VOC (%)**
Stationary	1.4	9%	1.3	10%	3.3	5%	12.8	21%
Area-wide	0.2	1%	6.6	49%	1.0	1%	29.6	50%
Off-Road Mobile	8.8	55%	3.0	22%	8.0	12%	0.8	1%
On-Road Mobile	5.6	35%	2.5	19%	54.4	82%	16.4	28%
Total	16.0	100%	13.5	100%	66.6	100%	59.6	100%

Source: The EPA calculated percentages using information from Demonstration, Appendix A, Table 3, 19.
[a] CARB modeled April – October and refers to this period as the "modeled ozone season" and the emission inventory used as the "summer planning inventory". For calendar years 2018 – 2020 all max daily 8-hour ozone values above 70 ppb at Calexico-Ethel Street and El Centro-9th Street occurred between April – September. These months represent peak ozone for the area.

3. Ambient Observational Analysis – Back Trajectories

CARB's Demonstration includes an analysis of back trajectories created using the National Oceanic and Atmospheric Administration's (NOAA) Hybrid Single Particle Lagrangian Integrated Trajectory (HYSPLIT) model.[35] The analysis includes trajectories for each exceedance day in 2018, 2019, and 2020 (when the daily maximum eight-hour average ozone level was above 70 ppb) at the two Imperial County monitors with the highest 2020 design

[34] CARB's Demonstration, Appendix A, 17-19 describes the emissions used in the photochemical modeling exercise and summarized in Table 3 of this document. Updated Mexico emissions were developed as part of a project prepared for CARB by the Eastern Research Group, Inc. (ERG). ERG, Final Report, "2014 Northern Baja California Emissions Inventory Project," September 30, 2019.
[35] Demonstration, Appendix B. National Oceanic and Atmospheric Administration's Hybrid Single Particle Lagrangian Integrated Model (HYSPLIT), *https://www.ready.noaa.gov/HYSPLIT.php*.

values, Calexico-Ethel Street (42 exceedance days) and El Centro-9th Street (17 exceedance days). CARB identified the hours contributing to the daily maximum 8-hour average ozone value for each exceedance day and then used HYSPLIT to generate 8-hour back-trajectories for each of the eight hours that contributed to the maximum 8-hour average ozone value for each exceedance day at each monitor. CARB generated back-trajectories for three starting altitudes (100, 500, and 1000 meters (m)) at each monitor using meteorological data from the North American Mesoscale Forecast System (NAM) 12 kilometer (km) pressure coordinate system dataset.

CARB's analysis flagged an exceedance day as having likely influence from emissions emanating from Mexico if the majority of back-trajectories (at least five out of eight) for that day originated from or passed over Mexico. CARB then removed those flagged days and recalculated the 2020 design values for the Calexico-Ethel Street and El Centro-9th Street monitors. Using this analysis, CARB asserts that when days with likely influence from emissions emanating from Mexico are excluded based on the HYSPLIT analysis, the estimated design values for the monitors would meet the 0.070 ppm (70 ppb) 8-hour ozone standard.

4. Modeling to Quantify International Contribution – CARB Photochemical Modeling

Appendix A to CARB's Demonstration describes CARB's photochemical modeling. CARB simulated conditions between April 2018 and October 2018 using the Community Multiscale Air Quality model (CMAQ) driven by meteorological fields from the Weather Research and Forecasting (WRF) prognostic model.[36] The overall CMAQ air quality modeling domain covers the entire State of California, and has a horizontal grid size resolution of 12 kilometer (km) with 107 x 97 lateral grid cells for each vertical layer. It extends from the Pacific Ocean in the west to eastern Nevada in the east, and from the northern Mexico in the south to the California-Oregon border in the north. The smaller nested domain used to model the Imperial County nonattainment area covers southern California (including the South Coast, San Diego,

[36] CMAQ model version 5.3.2, released by the EPA in October 2020. Further information on CMAQ is available at: *https://www.cmascenter.org/cmaq/*. WRF model version 4.2.1. Further information on WRF is available at *https://www.mmm.ucar.edu/weather-research-and-forecasting-model*.

and Salton Sea air basins) and northern Mexico, has a finer scale 4 km grid resolution, and includes 156 x 102 lateral grid cells.

CARB included a performance analysis for the meteorological model (WRF) and the ozone model (CMAQ) simulations including statistics recommended in the EPA's "Modeling Guidance for Demonstrating Air Quality Goals for Ozone, $PM_{2.5}$ and Regional Haze," ("Modeling Guidance").[37] CARB validated the WRF-simulated surface wind speed, temperature, and relative humidity from the 4 km domain against hourly observations at 13 surface stations in Imperial County and included detailed hourly time-series together with spatial distributions of the mean bias and mean error.[38] CARB also included a phenomenological analysis showing the model captures the general meteorological patterns affecting the region on exceedance days.[39]

CARB provided an operational evaluation of the ozone model performance including tables of statistics for elevated ozone periods (greater than 60 ppb) as recommended in the Modeling Guidance for 1-hour ozone, daily maximum 1-hour ozone, and daily maximum 8-hour modeled ozone compared to observations at the Calexico-Ethel Street and El Centro-9th Street ozone monitoring locations.[40] CARB also provided scatter plots, time series and additional performance statistics and compared these results to those from similar studies in other areas.[41]

After confirming the model performance for the 2018 base case using 2018 anthropogenic emissions for both the U.S. and Mexico, CARB performed a "brute-force" or "zero-out" sensitivity case. The only difference from the base case is that anthropogenic, near-source northern Mexico emissions (those within the CMAQ 4 and 12 km modeling domains[42]) were excluded from the simulation. CARB then used the modeled zero-out and base case results to apply a pseudo-Relative Reduction Factor (RRF) to observations and to predict the

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[37] EPA 454/R-18-009, November 2018.
[38] Demonstration, 24-27 and 46-58.
[39] Id. at 28-32.
[40] Id. at 34-36.
[41] Id. at 37-39 and 59-64.
[42] See Demonstration, Appendix A, Figure 6 and email dated March 3, 2022, from Chenxia Cai (CARB) to Rynda Kay (EPA), Subject: "RE: Imperial 179B(b) demo: quick clarification question on model set-up."

contribution of near-source northern Mexico emissions to the average of Imperial County 2018, 2019, and 2020 ozone design values.[43] Here, the RRF represents the fractional change in modeled peak ozone between the base and zero-out simulations. The Modeling Guidance recommends calculating an RRF based on the highest 10 modeled days in the simulated period (at each monitoring site). CARB used the top 10 days from the base case simulation and then the same corresponding days from the zero-out simulation. These values are based on the maximum simulated ozone within a 3x3 array of grid cells surrounding the grid cell in which the monitor is located. The predicted design values were then calculated by multiplying the average of Imperial County 2018, 2019, and 2020 design values by the pseudo-RRFs. The change in design value represents the contribution of near-source, northern Mexico emissions to the design value.

As shown in Table 4 of this document, with the removal of anthropogenic northern Mexico emissions in the 4 km and 12 km modeling domains, the average of the 2018-2020 design values for Calexico-Ethel Street is predicted to be reduced from 78.0 to 69.2 ppb, and for El Centro-9th Street is reduced from 72.0 to 61.3 ppb. These calculations indicate that emissions from northern Mexico contribute approximately 9 ppb to the design value at the Calexico-Ethel Street monitor and approximately 11 ppb to the design value at the El Centro-9th Street monitor. The contribution from the rest of Mexico and other international sources outside of the modeling domain were not removed. Had the contribution from the rest of Mexico and other international sources also been removed, the modeling would have predicted a larger contribution to the design values from international emissions.

Table 4 – CARB's Average 2018-2020 Design Values Estimates Based on Scaling Exercise from CARB Modeling

Monitoring Site	Measured Average 2018-2020 Design Values (DV_B, ppb)	Estimated DV_B without anthropogenic northern Mexico Emissions (ppb)	Approximate northern Mexico contribution to DV_B (ppb)	Change in design value (percent)

[43] The Modeling Guidance recommends using three 3-year design value periods when doing an attainment test as part of a SIP demonstration for ozone in order to account for meteorological variability. CARB applied this approach to its 179B(b) modeling demonstration and calculated design values for the 3 three-year periods ending in 2018, 2019, and 2020 and then averaged them.

Calexico-Ethel	78.0	69.2	8.8	11.3%
El Centro-9th	72.0	61.3	10.7	14.9%

Source: Demonstration, 9. Note that the Demonstration refers to emissions from "Mexico" but only emissions from northern Mexico (those within the 4 and 12 km modeling domains) were excluded.
Note: "Measured Average 2018-2020 Design Values" above takes the 2018, 2019, and 2020 design value for the individual site and averages the three design values together to arrive at the value listed.

D. EPA Review of the State's Submission

As part of meeting its duty to determine whether the Imperial County area attained the 2015 ozone NAAQS by the applicable attainment date, the EPA evaluated air quality monitoring data submitted by CARB to determine the attainment status of the Imperial County nonattainment area as of its Marginal area attainment date. The Agency has also evaluated the State's 179B(b) demonstration that the Imperial County nonattainment area would have attained the 2015 ozone NAAQS by the attainment date, but for international emissions. Based on our review, the EPA is proposing to approve the CAA section 179B(b) demonstration. The EPA is proposing this action to fulfill its statutory obligation under CAA section 181(b)(2) to determine whether the Imperial County nonattainment area attained the 2015 ozone NAAQS as of the attainment date of August 3, 2021. Our rationale supporting the proposed approval of the State's 179B(b) demonstration and determination is summarized below. The full rationale is included in the technical support document provided in the docket for this rulemaking.

CARB's retrospective 179B(b) demonstration includes multiple lines of evidence consistent with the key types of analyses recommended in our 179B Guidance.[44] These analyses appropriately focus on 2018, 2019, and 2020, which are the key years for demonstrating attainment for a Marginal area for the 2015 ozone NAAQS. We agree that each line of evidence supports the conclusion that the 2020 ozone design values at all monitoring sites in Imperial County would be at or below 0.070 ppm (70 ppb) but for the influence of Mexican emissions. CARB's analyses focus on the influence from near-source northern Mexico contribution; the

[44] 179B Guidance, Section 6.

EPA notes that this is a narrow, conservative approach to analyzing "international contribution." Even with this approach, we find that these analyses support this conclusion. Based on the evaluation of these analyses as a whole, the EPA agrees that Imperial County would have attained the 2015 ozone NAAQS by the August 3, 2021 attainment date but for emissions emanating from Mexico.

CARB provided a conceptual model describing the meteorology and topography of the area, an evaluation of ozone precursor emissions, and an analysis of ozone trends at County monitors. We agree that the following factors support the proposition that the Mexicali Municipality emissions likely have a substantial influence on Imperial County ozone levels, particularly at the Calexico-Ethel monitor, which remains the only monitor with a violating 2020 design value: the topography and meteorology of the Imperial and Mexicali areas results in a single, shared binational airshed; Mexicali Municipality ozone precursor emissions are much larger (currently approximately four times greater) than Imperial County emissions; ozone concentration trends over time show that monitors farther from the border have experienced decreasing concentrations, while at the Calexico-Ethel monitor concentrations have remained flat; and spatially, ozone concentrations decrease with increasing distance from the border.

CARB ran the HYSPLIT model to generate 8-hour back-trajectories for each of the eight hours contributing to each 2018-2020 daily maximum 8-hour average ozone exceedance (greater than 70 ppb) at the Calexico-Ethel and El Centro-9th Street monitors at three altitudes (100 m, 500 m, 1000 m). CARB flagged days that had at least 5 of the 8 hours originating from or traversing through Mexico as having likely influence from emissions emanating from Mexico. The 179B Guidance recommends a slightly more stringent test for identifying days influenced by international emissions using a threshold of 75 percent of trajectories (e.g., 6 of 8 trajectories) as indicating values that are likely influenced by international emissions for a given day.[45] CARB notes that for more than 75 percent of flagged days, six or more of the eight 8-hour back-

[45] 179B Guidance, 34.

trajectories originated from or went through Mexico, with most back-trajectories passing over the city of Mexicali.[46] The EPA performed additional analysis and found that 61-87 percent of the 8-hour back trajectories (considering all three starting altitudes of 100 m, 500 m, and 1000 m) passed over Mexico within the 8-hour period prior to arriving at the monitoring site, with 55-80 percent passing over the Mexicali Municipality. The remaining trajectories, particularly at lower elevations, generally come from the northwest, following valley topography, over the sparsely populated Anza-Borrego desert region. We conclude that the high percentage of 8-hour back trajectories passing over Mexicali supports the conclusion that there is a direct international source-receptor relationship between the Mexicali area and Imperial County on 2018-2020 exceedance days.

CARB also recalculated the 2020 design value excluding the days flagged following the same methodology. The EPA notes that flagged days on which international emissions are likely to have an impact might also be affected by domestic emissions, and a simple back-trajectory analysis cannot distinguish whether ozone levels on that day would have exceeded the NAAQS without any international contributions. Therefore, a simple recalculation of the design value excluding days with influence from Mexico is not a conclusive "but for" analysis. However, the EPA agrees that CARB's 8-hour back trajectory analysis shows that there is consistent, direct transport from the high-emissions Mexicali Municipality on high ozone days to violating Imperial County monitors. This direct transport, in conjunction with the much larger emissions magnitudes in Mexicali than in Imperial County, supports an international source-receptor relationship between the Mexicali area and Imperial County on exceedance days.

CARB used CMAQ (version 5.3.2) driven by WRF (version 4.2.1) meteorological fields to conduct its photochemical modeling analysis. The EPA recognizes both CMAQ and WRF as

[46] Demonstration, 11.

technically sound, state-of-the-science models applicable for use in regulatory applications.[47] We find that the areal extent and the horizontal and vertical resolution CARB used in these models are appropriate for modeling Imperial County ozone. The diurnal variation of temperature, humidity and surface wind are well represented by WRF and the model captures the main meteorological features contributing to high ozone in Imperial County. We reviewed the scatter plots, time series, and performance statistics provided and agree that, overall, the CMAQ modeling performance is acceptable and compares favorably to similar studies in other areas.

As previously discussed, CARB used the model results to estimate the impact of cross-border, northern Mexico emissions on air quality. The results of this estimate were applied to the average of the 2018, 2019, and 2020 ozone design values at Calexico-Ethel Street and El Centro-9th Street (78 and 72 ppb, respectively) and indicate near-source Mexico emissions contribute approximately 9 ppb and 11 ppb to the design values at Calexico-Ethel Street and El Centro-9th Street, respectively. The EPA notes that the analysis here conservatively evaluates only cross-border emissions from northern Mexico, and does not evaluate effects of international emissions from other parts of Mexico or elsewhere.

The EPA has performed additional analysis of its 2020 Ozone Policy Assessment ("2020 PA") modeling[48] to provide broad U.S. and international source attribution for 2015 ozone NAAQS nonattainment areas in the year 2016. [49] The 2020 PA modeling predicts that nationwide, average simulated international anthropogenic ozone contribution to the top 10 model days over all nonattainment areas is 5.3 ± 4.9 ppb (mean ± standard deviation) and the average U.S. anthropogenic ozone contribution is 40.2 ± 13.5 ppb.[50] This result shows that in

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[47] Memorandum dated August 4, 2017, from Tyler Fox, EPA, Office of Air Quality Planning and Standards, Subject: "Use of Photochemical Grid Models for Single-Source Ozone and Secondary $PM_{2.5}$ Impacts for Permit Program Related Assessments and for NAAQS Attainment Demonstrations for Ozone, $PM_{2.5}$ and Regional Haze."
[48] U.S. EPA. (2020). Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards (No. EPA-452/R-20-001). Research Triangle Park, NC: United States Environmental Protection Agency. Retrieved from *https://www.epa.gov/sites/production/files/2020-05/documents/o3-final_pa-05-29-20compressed.pdf*.
[49] Memorandum dated August 10, 2021, from Barron Henderson and Heather Simon (EPA, OAQPS), Subject:"Designated Area Source Attribution Results Related to the National Determination of Attainment by the Attainment date (DAAD) Action."
[50] The EPA modeling was done for the year 2016.

most nonattainment areas the U.S. anthropogenic contribution is much larger than the international anthropogenic contribution.

The 2020 PA modeling predicts that the international anthropogenic ozone contribution to the top 10 model days specifically for Imperial County is 31.8 ppb, the largest international anthropogenic contribution of any nonattainment area in the country. In contrast to the modeling submitted by CARB, which quantifies only the small portion of the international contribution that comes from near-source anthropogenic emissions in northern Mexico, the EPA's modeling quantifies impacts from all international anthropogenic emissions sources. This international anthropogenic contribution is four times larger than the U.S. anthropogenic contribution of 8.2 ppb on those days. The EPA also provided contribution estimates to the average of the 2018, 2019, and 2020 design values for Imperial County (78 ppb) and predicted that the international anthropogenic contribution to that value was 31.8 ppb and U.S. anthropogenic contribution was 8.2 ppb.[51] The analyses are from different years and different modeling platforms, which complicates conclusions from direct comparisons. In addition, CARB did not specifically split out the U.S. anthropogenic contributions in their modeling. Even so, we note that the U.S. anthropogenic contribution of 8.2 ppb from the 2020 PA modeling is smaller than the 9-11 ppb estimated contribution from just northern Mexico in CARB's modeling and is much smaller than the 31.8 ppb from all international sources in the EPA's 2020 PA modeling. This additional modeling indicates that international anthropogenic emissions contribute significantly to ozone in Imperial County, and that emissions from northern Mexico, while having a substantial contribution, are only a portion of the total contribution from all international anthropogenic sources to Imperial County ozone design values. CARB and EPA analyses both support the

[51] In addition to the international anthropogenic and U.S. anthropogenic contributions, natural emissions were predicted to contribute 30.0 ppb. Due to the non-linearity of ozone chemistry, some portion of the ozone concentration in each area cannot be attributed solely to U.S. anthropogenic or international anthropogenic sources. Thus, reducing this fraction of ozone (referred to as "Mix Anth") requires reducing both U.S. anthropogenic and international anthropogenic sources. The predicted Mix Anth contribution to this value was 7.9 ppb.

conclusion that Mexican anthropogenic emissions substantially contribute to ozone exceedances in Imperial County.

In conclusion, the EPA finds that these multiple lines of evidence, taken together, support the conclusion that Imperial County would have attained the 2015 ozone NAAQS by the August 3, 2021 attainment date "but for" international emissions and support the approval of CARB's 179B(b) demonstration.

III. Environmental Justice Considerations

Executive Order 12898 (59 FR 7629, February 16, 1994) requires that federal agencies, to the greatest extent practicable and permitted by law, identify and address disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations. Additionally, Executive Order 13985 (86 FR 7009, January 25, 2021) directs federal government agencies to assess whether, and to what extent, their programs and policies perpetuate systemic barriers to opportunities and benefits for people of color and other underserved groups, and Executive Order 14008 (86 FR 7619, February 1, 2021) directs federal agencies to develop programs, policies, and activities to address the disproportionate health, environmental, economic, and climate impacts on disadvantaged communities.

To identify environmental burdens and susceptible populations in underserved communities in the Imperial County nonattainment area and to better understand the context of our proposed approval of CARB's 179B(b) demonstration on these communities, we conducted a screening-level analysis using the EPA's environmental justice (EJ) screening and mapping tool ("EJSCREEN").[52] Our screening-level analysis indicates that communities affected by this action score above the national average for the EJSCREEN "Demographic Index," which is the average of an area's percent minority and percent low income populations, i.e., the two

[52] EJSCREEN provides a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN is available at *https://www.epa.gov/ejscreen/what-ejscreen.* The EPA used EJSCREEN to obtain environmental and demographic indicators representing the City of Calexico, which is located adjacent to the border with Mexico and measures the highest levels of ozone in the nonattainment area, and the central portion of Imperial County, where the overwhelming majority of the population resides. These indicators are included in EJSCREEN reports that are available in the rulemaking docket for this action.

demographic indicators explicitly named in Executive Order 12898.[53] These communities also score above the national average for the "linguistically isolated population," and "population with less than high school education" indicators. Additionally, these communities score above the national average for numerous EJ Index indicators, including the $PM_{2.5}$ EJ index and the respiratory hazard EJ Index. We also looked at ozone design values for the 2018–2020 period as an indicator of potential ozone pollution exposure.[54] Both the Calexico and the El Centro monitors score above the national average design value for this period.[55]

As discussed in the EPA's EJ technical guidance, people of color and low-income populations, such as those in Imperial County, often experience greater exposure and disease burdens than the general population, which can increase their susceptibility to adverse health effects from environmental stressors.[56] Underserved communities may have a compromised ability to cope with or recover from such exposures due to a range of physical, chemical, biological, social, and cultural factors.[57] In addition to the demographic and environmental indicators identified in our screening level analysis, the proximity of underserved communities to the border with Mexico and the resulting exposure to levels of ozone that exceed the NAAQS

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[53] EJSCREEN reports environmental indicators (e.g., air toxics cancer risk, Pb paint exposure, and traffic proximity and volume) and demographic indicators (e.g., people of color, low income, and linguistically isolated populations). The score for a particular indicator measures how the community of interest compares with the state, the EPA region, or the national average. For example, if a given location is at the 95th percentile nationwide, this means that only five percent of the US population has a higher value than the average person in the location being analzed. EJSCREEN also reports EJ indexes, which are combinations of a single environmental indicator with the EJSCREEN Demographic Index. For additional information about environmental and demographic indicators and EJ indexes reported by EJSCREEN, see EPA, "EJSCREEN Environmental Justice Mapping and Screening Tool – EJSCREEN Technical Documentation," section 2 (September 2019).

[54] The ozone metric in EJSCREEN represents the summer seasonal average of daily maximum 8-hour concentrations (parts per billion, ppb) and was not used in our EJ analyses because it does not represent summertime peak ozone concentrations, which are instead represented here by the design value (DV) metric. Ozone DVs are the basis of the attainment determination in this proposed action, and in this case we consider it a more informative indicator of
pollution burden relative to the Imperial nonattainment area and the U.S. as a whole.

[55] The 2020 ozone design value for the Calexico monitor (0.078 ppm) is in the 94th percentile and the El Centro monitor (0.068 ppm) is in the 73rd percentile among 2020 ozone design values nationally. The percentiles were calculated using data available at *https://www.epa.gov/system/files/documents/2022-05/O3_DesignValues_2019_2021_FINAL_05_25_22.xlsx*, Table 6. Site Trend, column T ("2018-2020 Design Value (ppm)").

[56] EPA, "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis," section 4 (June 2016).

[57] Id. section 4.1.

contributes to the potential EJ concerns faced by communities in the Imperial nonattainment area.

If finalized, this proposed action to approve California's demonstration that the Imperial County ozone nonattainment area would have attained the standard by the statutory attainment date, but for emissions emanating from Mexico, would result in the area retaining its Marginal classification. The area will retain its designation as nonattainment and continue to implement nonattainment new source review, but will not be reclassified as "Moderate" and the State will not be required to submit a plan demonstrating attainment or to adopt additional control measures, consistent with CAA section 179B(b).[58] As a result, the EPA will not be requiring the State to impose additional control measures for purposes of the 2015 ozone NAAQS that could serve to reduce ozone exposure in the area, even if they would not result in actual attainment of the NAAQS due to the influx of ozone and its precursors from Mexico.

However, we note that the Imperial County nonattainment area is also designated nonattainment, and classified as Moderate, for the 2008 ozone NAAQS. Section 172(c)(1) of the CAA requires states to implement RACM/RACT level emission controls for ozone nonattainment areas classified Moderate and above. In 2020, the EPA determined that California's Moderate area nonattainment plan for the Imperial County nonattainment area for the 2008 ozone NAAQS provides for the implementation of all RACM as required by CAA section 172(c)(1) and 40 CFR 51.1112(c).[59] Because California has already implemented RACM/RACT level controls for purposes of the 2008 ozone NAAQS in the area, we think that this will serve to limit potential impacts from the EPA's approval of the 179(B)(b) demonstration for purposes of the 2015 ozone NAAQS.

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[58] In light of the overall health and clean air objectives of the CAA, the EPA encourages the State and District to continue to evaluate and, where feasible, implement measures that would further reduce emissions and contribute to improved air quality in the Imperial nonattainment area.

[59] 85 FR 11817 (February 27, 2020), 85 FR 8181 (February 13, 2020), and 86 FR 49248 (September 2, 2021).

In addition, the EPA notes that there are other efforts underway to reduce environmental burden along the U.S-Mexico border, including Imperial County. The United States and Mexico have long recognized the environmental challenges in the border region and share the goal of protecting the environment and public health in the U.S.-Mexico border region. The two nations have been working together outside the framework of the SIP process to make progress towards those goals.

The U.S.-Mexico Environmental Program ("Border 2025") is a five-year (2021-2025) binational effort designed "to protect the environment and public health in the U.S.-Mexico border region, consistent with the principles of sustainable development."[60] Border 2025 is the latest of a series of cooperative efforts implemented under the 1983 La Paz Agreement. It builds on previous binational efforts (i.e., the Border 2012 and Border 2020 Environmental Programs), emphasizing regional, bottom-up approaches for decision making, priority setting, and project implementation to address the environmental and public health problems in the border region. As in the previous two border programs, Border 2025 encourages meaningful participation from communities and local stakeholders and establishes guiding principles that will support the mission statement, ensure consistency among all aspects of the Border 2025 Program, and continue successful elements of previous binational environmental programs.

Border 2025 sets out four strategic goals, including the reduction of air pollution and the improvement of water quality, to address environmental and public health challenges in the border region. Within the goals are specific objectives that identify actions that will be taken in support of the program's mission. The goals and objectives were determined binationally between the EPA and the Ministry of Environment and Natural Resources of Mexico (SEMARNAT) to address ongoing environmental challenges, and considered input from state and tribal partners. The "California-Baja California 2021-2023 Border 2025 Action Plan" lists

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[60] "Border 2025: United States – Mexico Environmental Program," included in this docket and accessible at *https://www.epa.gov/sites/default/files/2021-05/documents/final_us_mx_border_2025_final_may_6.pdf.*

and describes the projects that are being undertaken to achieve the goals and objectives of Border 2025, along with the target outputs, expected results, and status of each action.[61]

In addition to the ongoing efforts under the Border 2025 agreement, in 2020, the EPA awarded the Imperial County APCD $3,350,371 to pave 3.5 miles of residential alleyways in the downtown core of the City of Calexico to reduce $PM_{2.5}$ and PM_{10}.[62] While the resulting reductions of particulate emissions will not reduce ozone levels, it should relieve some of the cumulative burden on disadvantaged communities in the Imperial ozone nonattainment area.

The EPA is committed to environmental justice for all people, and we acknowledge that the Imperial County nonattainment area includes minority and low income populations that could be affected by this action. As discussed in Section I.B. of this document, the District and State have met the requirements for ozone nonattainment areas classified as Marginal. Notwithstanding the purpose of this action determining that the Imperial ozone nonattainment area would have attained the 2015 ozone NAAQS but for emissions transported from Mexico, the EPA is working to reduce disproportionate health, environmental, economic, and climate change impacts in the Imperial County nonattainment area by other means, including those described in this section.

IV. Proposed Action

For the reasons discussed in this document, we are proposing to determine, consistent with our evaluation of the "Imperial County Clean Air Act Section 179B(b) Analysis for the 70 ppb 8-Hour Ozone Standard," that the Imperial County nonattainment area would have attained the 2015 ozone NAAQS by the Marginal area attainment date of August 3, 2021, but for emissions emanating from outside the United States. If finalized, the EPA's obligation under section 181(b)(2)(A) to determine whether the area attained by its attainment date will no longer

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[61] The "California-Baja California 2021-2023 Border 2025 Action Plan" is included in the docket for this action and is accessible online at *https://www.epa.gov/usmexicoborder/region-9-action-plansplanes-de-accion-de-region-9*.

[62] A list of the Targeted Airshed Grants the EPA awarded in fiscal years 2015-2020 is accessible online at *https://www.epa.gov/air-quality-implementation-plans/targeted-airshed-grant-recipients.* These EPA grants support projects to reduce emissions in areas facing the highest levels of ground-level ozone and fine particulate matter, or $PM_{2.5}$.

apply and the area will not be reclassified. The area will remain designated nonattainment and thus the State will continue to comply with applicable requirements for a Marignal ozone nonattainment area.

The EPA is soliciting public comments on the issues discussed in this document. We will accept comments from the public on this proposal until [**Insert date 30 days after date of publication in the *Federal Register***] and will consider comments before taking final action.

V. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

This rulemaking does not impose any new information collection burden under the PRA not already approved by the Office of Management and Budget. This action proposes to find that the Imperial County Marginal ozone nonattainment area would have attained the 2015 NAAQS by the applicable attainment date, but for emissions emanating from outside the United States. Thus, the proposed action does not establish any new information collection burden that has not already been identified and approved in the EPA's information collection request.[63]

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. The proposed determination that Imperial County would have attained the 2015 ozone

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[63] On April 30, 2018, the OMB approved the EPA's request for renewal of the previously approved information collection request (ICR). The renewed request expired on April 30, 2021, 3 years after the approval date (see OMB Control Number 2060-0695 and ICR Reference Number 201801-2060-003 for EPA ICR No. 2347.03). On April 30, 2021, the OMB published the final 30-day Notice (86 FR 22959) for the ICR renewal titled "Implementation of the 8-Hour National Ambient Air Quality Standards for Ozone (Renewal)" (see OMB Control Number 2060-0695 and ICR Reference No: 202104-2060-004 for EPA ICR Number 2347.04). The ICR renewal is pending OMB final approval.

NAAQS but for international emissions does not in and of itself create any new requirements beyond what is mandated by the CAA. Instead, this rulemaking only makes factual determinations, and does not directly regulate any entities.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531-1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states and tribes, or on the distribution of power and responsibilities among the various levels of government. The division of responsibility between the Federal Government and the states for the purposes of implementing the NAAQS is established under the CAA.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action has tribal implications. However, it will neither impose substantial direct compliance costs on federally recognized tribal governments, nor preempt tribal law.

The EPA has identified two tribal areas located within the Imperial County nonattainment area, which is the subject of this action proposing to determine the area attained the 2015 ozone NAAQS, but for emissions emanating from outside the United States. The EPA has invited the Quechan Tribe of the Fort Yuma Indian Reservation and the Torres Martinez Desert Cahuilla Indians to engage in government to government consultation in advance of our proposed action and intends to continue to communicate with the tribes as the Agency moves forward in developing a final rule.

G. Executive Order 13045: Protection of Children from Environmental Health and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may

disproportionately affect children, per the definition of "covered regulatory action" in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer Advancement Act (NTTAA)

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order (EO) 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. The EPA's evaluation of this issue is contained in the section of the preamble titled "Environmental Justice Considerations."

List of Subjects

40 CFR Part 52

Environmental protection, Administrative practice and procedure, Air pollution control, Designations and classifications, Incorporation by reference, Intergovernmental relations, Nitrogen oxides, Ozone, Reporting and recordkeeping requirements, and Volatile organic compounds.

40 CFR Part 81

Environmental protection, Administrative practice and procedure, Air pollution control, Designations and classifications, Intergovernmental relations, Nitrogen oxides, Ozone, Reporting and recordkeeping requirements, and Volatile organic compounds.

Dated: August 4, 2022.

Martha Guzman Aceves,

Regional Administrator,

Region IX.

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